Intel® IP Network Server
Intel® NSW1U (1Ux20”D)

Configuration Guide
System / Spares / Accessories List
Rev 1.2

A reference guide to assist customers and the field in ordering these servers, accessories and spares

~Subject to Change Without Notice~

NSW1U

May 2007

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I. Change History

Revision	Date	Comments
1.0	11/10/2006	Original version.
1.1	3/19/2007	Updated at SRA. Added Front NIC Bypass SKU.
1.2	5/17/2007	Updated Spares list; new Rack Mount appendix; misc. updates

II. Introduction

The Intel® IP Network Server NSW1U system is the first 1U rack mount server to join the Intel® IP Network Server family, characterized by having long product life and a 20" depth chassis. The NSW1U uses the Dual-Core Intel® Xeon® Processor 5100 Series with 4M cache, and supports a number of CPU speeds.

Intel® IP Network Servers are suited to a host of applications in the network security and industrial environment. The server is targeted to applications requiring rugged systems including Intrusion Detection, Intrusion Protection, Firewall, VPN, SSL VPN, and Application Secure Gateways. It can also support manufacturing, industrial, utility and military applications where a rugged, highly reliable server is required for harsh environments such as dust, high altitude, fire hazard, earthquake propensity, and high ambient temperatures.

The NSW1U product has several phases before being released for general customer availability (SRA – Ship Release Authorization). These phases include a Beta, Silver, and Production phase. This document details the options available on the Production systems.

III. Production SKUs

Intel IP Network Servers:
Production NSW1U Server – Rear NIC (AC Supply) - Product Code **NSWA0201W**
Production NSW1U Server – Rear NIC (DC Supply) - Product Code **NSWD0201W**
Production NSW1U Server – Front NIC (AC Supply) - Product Code **NSWA0301W**
Production NSW1U Server – Front NIC with Bypass (AC Supply) - Product Code **NSWA0401W**

All listed Production SKUs are model 0 SKUs (no CPU, heatsink, memory, hard drive or plug-in adapters are provided). Those components must be ordered separately as Accessories from Intel or from third party vendors listed in the Tested Hardware and Operating System List (THOL). See Appendix A – Production SKU Configuration for a list of components included in each Production model 0 SKU.

NSW1U is designed for the Dual-Core Intel® Xeon® Processor 5100 Series with 4M L2 cache, and 1066MHz/1333MHz FSB.

Check the following site for more information on the NSW1U:
http://www.intel.com/design/telecom/products/cbp/ipserver/9979/overview.htm

Intel® Network Server NSW1U support web site:
http://support.intel.com/support/telecom/computeboards/nsw1u/index.htm

Please note the following:

- **Please refer to the Intel® IP Network Server NSW1U product documentation.**
- **AC Power cords are not provided with the base system. Customers must procure the power cords separately (for AC systems, order the NA – North American - power cord as indicated).**
- **Ensure customers have the appropriate technical support and contact before placing the first order.**
- **The NSW1U base configuration comes with a riser to support 1 PCI-Express slot. An optional replacement riser may be ordered to support a 1 slot PCI-X.**

Special instructions for Ordering of Processors:

The NSW1U supports a range of processor speeds from 1.6 GHz to 3.0 GHz. Ordering details for the CPU for use in NSW1U are listed below**,** and includes both Tray (for OEMs) and Boxed (Retail channel) processors.

Dual-Core Intel® Xeon® Processors Supported by NSW1U:

Processor Number	*Speed*	*FSB*	*TDP*	*Boxed Processor Product Code*	*Tray Processor Product Code*
5160	3.00 GHz	1333 MHz	80W	BX805565160A	HH80556KJ0804M
5150	2.66 GHz	1333 MHz	65W	BX805565150A	HH80556KJ0674M
5140	2.33 GHz	1333 MHz	65W	BX805565140A	HH80556KJ0534M
5130	2.00 GHz	1333 MHz	65W	BX805565130A	HH80556KJ0414M
5120	1.86 GHz	1066 MHz	65W	BX805565120A	HH80556KH0364M
5110	1.6 GHz	1066 MHz	65W	BX805565110A	HH80556KH0254M
LV 5148	2.33 GHz	1333 MHz	40W	BX805565148A	HH80556JJ0534M
LV 5128	1.86 GHz	1066 MHz	40W	N/A	HH80556JH0364M

Notes:

- Although all of the above processors are tested and supported, Intel recommends the use of the following processors from Intel's Infrastructure Processor Division (IPD) for long availability and support.
  - 5140 (2.33 GHz, 1333MHz FSB, 65W)
  - 5130 (2.00 GHz, 1333MHz FSB, 65W)
  - LV 5148 (2.33 GHz, 1333MHz FSB, 40W)
  - LV 5128 (1.86 GHz, 1066MHz FSB, 40W)
- The boxed CPUs listed above include a Active/Passive Heatsink Kit. Simply remove the fan from the Kit, and install into the system as shown in the product documentation.
- For Tray CPUs, you will need to procure a Heatsink Kit (TMWHSNK01W) and thermal grease for each processor.

Note that CPU product codes can change, and that the above is a snapshot current as of **5/17/2007**. Please consult with your Intel representative for SSpec or MM# which may be needed for ordering the CPU. Any differences in functionality is reported in Monthly Specification updates available on http://developer.intel.com.

The **Production SKUs** that can be ordered (see Appendix A for content of each SKU) are listed below.

PID Order Code	Description	MM#	Minimum Order Size
NSWA0201W	Intel® IP Network Server NSW1U, 1U, **Rear NIC**, Base Model 0*. Includes 450W **AC Power Supply**.	885432	1
NSWD0201W	Intel® IP Network Server NSW1U, 1U, **Rear NIC**, Base Model 0*. Includes 450W **DC Power Supply**.	885433	1
NSWA0301W	Intel® IP Network Server NSW1U, 1U, **Front NIC**, Base Model 0*. Includes 450W **AC Power Supply**.	885501	1
NSWA0401W	Intel® IP Network Server NSW1U, 1U, **Front NIC with Bypass**, Base Model 0*. Includes 450W **AC Power Supply**.	888296	1

**Note: See definition of "base model 0" at beginning of section III.*

Power Cords are not included. For AC Power cords, order the power cord below. This power cable is RoHS-compliant.

PID	MM#	Comments
PWRCABLEUS	816324	This AC power cable may be ordered by North America (NA) customers. International customers should procure their specific power cords directly.

IV. Production Spares/Accessory List

Below are the Spares parts and Accessories that may be ordered with the NSW1U system. Any of these parts may be ordered as spares for part replacement purposes or as additional customer inventory. Some of the parts below are not included in the NSW1U system base model and may be ordered as accessories for purposes of upgrading the base model to include additional features.

Many of these parts are common to the Intel® Carrier Grade Server TIGW1U product. For a listing of additional compatible accessories, such as Optical Devices for use with the CD-ROM carrier, please refer to the Tested Hardware and Operating System List (THOL).

PID Order Code	Description	Contents	Included in Base Model (Y/N)	MM#	Minimum Order Size
TMWACPSU01W	TIGW1U AC Power Supply	AC power supply	Y *one in AC SKU*	886492	1
TMWDCPSU01W	TIGW1U DC Power Supply	DC power supply, input power connector	Y *one in DC SKU*	886537	1
TMWHSNK01W	TIGW1U CPU Heatsink	Heatsink	N	887151	12 *(order in multiples of 12)*
TMWCDRMC01W	TIGW1U CD-ROM Carrier; i/f board (no drive)	Carrier, PBA, screws, pwr cable, signal cable	N	886842	1
TMWSYSCON01W	TIGW1U Syscon Board	Board, cable, screws (mini-SD flash memory not included)	N	886484	1
AXXRMM2	Intel® Remote Management Module 2 (RMM2) - Single Pack	RMM2 with GCM (single-pack)	N	888501	1
AXXRMM2BULK	Intel® Remote Management Module 2 (RMM2) - Bulk Pack (10)	RMM2 with GCM (10-pack)	N	888498	1 *(specify '1' for each 10-pack)*
NSWDBCBL01W	NSW1U NIC Cable	Cable, PCI Support Bracket, escutcheon, screws	N	886591	5 *(order in multiples of 5)*
TMWPCIXRSR01W	TIGW1U PCI-X Riser	Riser, screws	N	886491	1
TMWPCIERSR01W	TIGW1U PCI-Express Riser	Riser, screws	Y	886490	1

Production Spares/Accessories List (continued)

PID Order Code	Description	Contents	Included in Base Model (Y/N)	MM#	Minimum Order Size
NSWFBZL01W	NSW1U Bezel - Rear NIC	Bezel	Y *one in Rear NIC SKU*	886614	1
NSWFBZL02W	NSW1U Bezel – Front NIC	Bezel	Y *one in Front NIC SKU*	886615	1
NSWCBLBRK01W	NSW1U Cable Management Bracket	Bracket for chassis face	N	886590	5 *(order in multiples of 5)*
NSIESCFBR100	NSI2U Fiber Escutcheon packaged in cartons of 48	Escutcheons (48-pack)	N	880102	48 *(order in multiples of 48)*
NSWCDFILL01W	NSW1U CD-ROM filler	CD filler	N	886841	1
NSWSATAHDD01W	NSW1U SATA HDD Carriers	2 carriers	Y	886589	1
NSWFANSET01W	NSW1U Fanset	Fans, bracket, air ducts	Y	886544	1
TMWCBL01W	TIGW1U Cables, CD-ROM power, spare	System cables—Flex, CD-ROM power, CD-ROM signal, SATA Signal, Front Panel Panel, Battery	Y	886613	1
TMWPDB01W	TIGW1U Power Distribution Board	Board	Y	886538	1
NSWEFPR01W	NSW1U Ethernet Front Panel I/O Board - Rear NIC, Litepipe	Board, litepipe	Y *one in Rear NIC SKU*	886540	1
NSWEFPF01W	NSW1U Ethernet Front Panel I/O Board - Front NIC, Litepipe	Board, litepipe	Y *one in Front NIC SKU*	886543	1
NSWBSBRDR01W	NSW1U Baseboard - Rear NIC	Board	Y *one in Rear NIC SKU*	886849	1
NSWBSBRDF01W	NSW1U Baseboard - Front NIC	Board	Y *one in Front NIC SKU*	886853	1
NSWBYPSBRD01W	NSW1U Ethernet Front Panel - Front NIC with Bypass	Board	Y *one in Front NIC SKU*	886812	1

V. Adding Bypass Ethernet ports

The NSW1U comes standard with 4 Gb Ethernet ports either in the front or rear of the chassis. By adding the Intel® Pro/1000 PT or PF Quad Port Bypass Server Adapter, four additional ports of Gbit ethernet (either Copper or Fiber) may be added. These NIC adapters may be purchased separately via normal distribution channels.

The Quad Copper NIF Bypass adapters require purchase of the NSWDBCBL01W kit, which includes 5 of the NIF cables designed for the NSW1U system, as well as the Escutcheons and associated screws to complete the installation of the Bypass adapter in the system.

The Quad Fiber NIF Bypass adapters require purchase of the NSIESCFBR100 escutcheon accessory.

Intel LAD NIC Order Codes:

PID order code	Description	MM#	Minimum Order Size
EXPI9014PTBLK	Quad Copper Gb Bypass NIC, 5 PACK	876697	5
EXPI9024PTBLK	Quad Copper Gb Bypass NIC in Front, 5 PACK	876699	5
EXPI9014PFBLK	Quad Fiber Gb Bypass NIC, 5 PACK	876696	5
EXPI9024PFBLK	Quad Fiber Gb Bypass NIC in Front, 5 PACK	876694	5

Note: For a list of other tested Network Interface Cards (NICs) refer to the Tested Hardware and Operating System List (THOL).

VI. Documentation

More Product Details:
Check the following web site for more information on the TIGW1U:
http://www.intel.com/design/telecom/products/cbp/ipserver/9979/overview.htm

Support.Intel.Com Users:
Product information including specifications, compatibility, user's guides, drivers, firmware, and software associated with the Intel® Network Server NSW1U is available from Intel Customer Support.

Intel® Network Server NSW1U support web site:
http://support.intel.com/support/telecom/computeboards/nsw1u/index.htm

If you can not access the documents using the links provided, please contact your FAE/FSE for assistance.

Appendix A. Base Model 0 Systems Configuration

All Production SKUs are base model 0 SKUs (no CPU, heatsink, memory, hard drive or plug-in adapters are provided). Those components must be ordered separately as Accessories from Intel or from third party vendors listed in the Tested Hardware and Operating System List (THOL). The below table lists how many of each component is included in the Production model 0 SKU.

NSW1U Production SKU Configuration

Component Description	Configuration AC SKU	Configuration DC SKU
Chassis (bezel, sheet metal, top cover, PCI carrier)	1	1
S5000PHB Baseboard (Dual-Core Intel® Xeon® Processor 5100 Series with 4M L2 cache, and 1066MHz and 1333MHz FSB) – CPUs not included	1	1
FH-FL Bracket with PCI-Express Riser	1	1
AC power supply (450W)	1	-
DC power supply (450W)	-	1
Power Supply Filler Panel	1	1
SATA HDD Carrier	2	2
Server Deployment Toolkit (CD)	1	1
Quick Start Guide	1	1
Power cable[1]	Purchase separately	Purchase separately
CD-ROM Carrier	Optional Accessory	Optional Accessory
PCI-X Riser[2]	Optional Accessory	Optional Accessory
Syscon Board[2]	Optional Accessory	Optional Accessory
Intel® Remove Management Module 2[2]	Optional Accessory	Optional Accessory
NIC Cable[2]	Optional Accessory	Optional Accessory
Cable Management Bracket[2]	Optional Accessory	Optional Accessory
Bypass Ethernet Ports[3]	Optional Accessory	Optional Accessory
Rack Mount Kits[4]	Optional Accessory	Optional Accessory

Some items above available as optional accessories as noted:

[1]Refer to AC power cord accessory in section III

[2]Refer to "Production Spares/Accessory List" in section IV

[3]Refer to "Adding Bypass Ports" in section V

[4]Refer to "Rack Mounts" in Appendix B

Note: For these SKUs to be functional, one or more of the following is required: Power cord, CPU, Memory, Hard Drive, Operating System, Heatsinks

Appendix B. Rack Mounting Options for 1U and 2U Intel® Communications Rack Mount Servers

Rack mounting kits for 2-post or 4-post, 19-inch or 23-inch racks are offered for this product. Please refer to the tables below for the correct options to suit your needs.

All rack mount kits listed are suitable for 1U and 2U Intel® Communications Rack Mount Servers. Installation instructions are included in each kit.

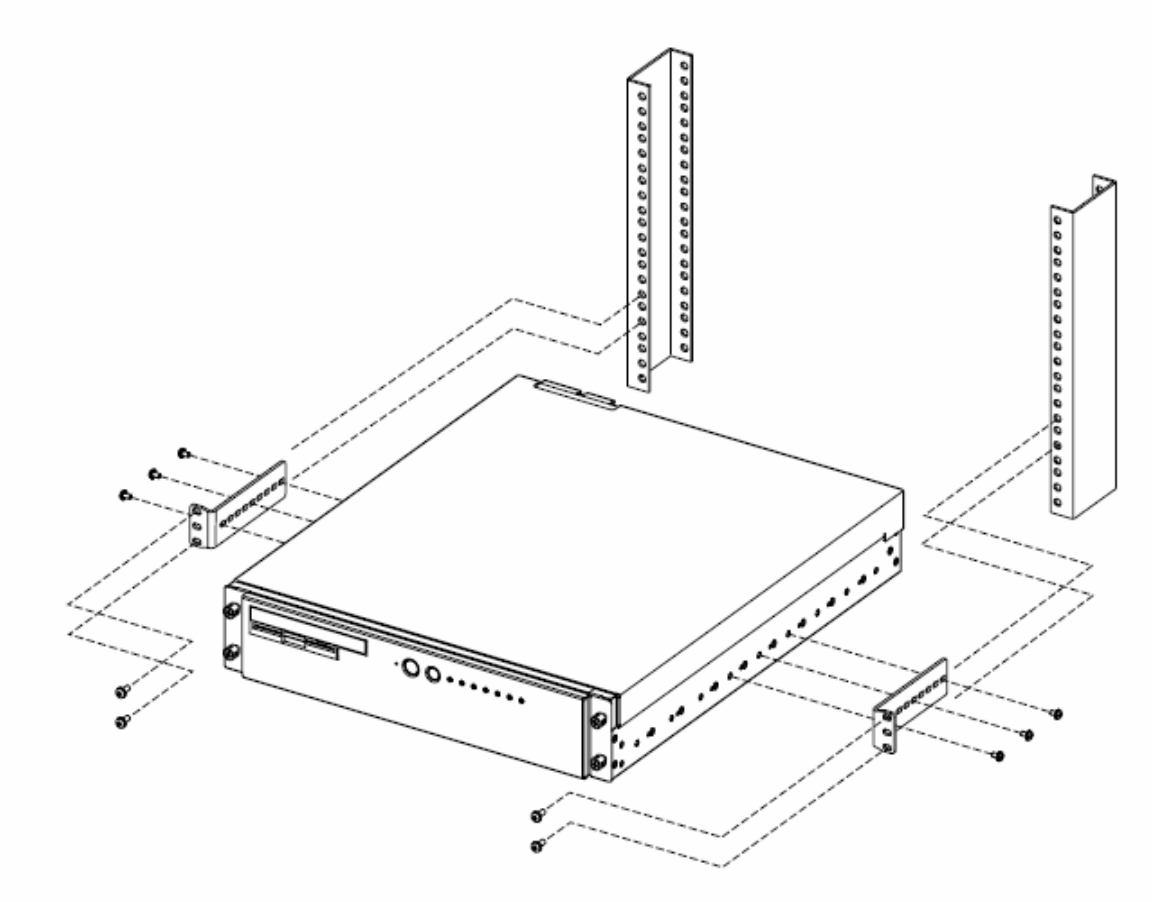
2-post Rack Mounting Kit Options							
Applicable kits:	Rack width		Post depth		Rack fastener hole spacing		
	19 inch	23 inch	3 inch	5 inch	EIA-Wide	EIA-Universal	ETSI
TMLCMOUNT**21**	●		●	●	●	●	
TMLPMOUNT**41**	●		●	●		●	
TMLPMOUNT**51**	●		●	●	●	●	
TMLPMOUNT**52**		●	●	●	●	●	●

4-post Rack Mounting Kit Options							
Applicable kits:	Rack width		Front-post to rear-post distance		Rack fastener hole spacing		
	19 inch	23 inch	Min (inches)	Max (inches)	EIA-Wide	EIA-Universal	ETSI
TMLPMOUNT**41**	●		20	24		●	
TMLPMOUNT**51**	●		20	24	●	●	
TMLPMOUNT**52**		●	20	24	●	●	●
TMLP**SLIDE01**†	●		22.5	28 or **34**††		●	

†The **TMLPSLIDE01** kit contains server securing brackets. The rails and other options for mounting the server are available through other venders such as Accuride (http://www.accuride.com/index2.php).
††**34-inch** span requires the optional Accuride "Long Bracket" kit.

TMLCMOUNT21

The TMLCMOUNT21 kit mounts Intel® Communication Rack Mount Servers to a 2-post, central office type, 19" wide rack. This kit consists of simple L-shaped brackets; which fasten to the sides of the server and to the rack.



TMLCMOUNT21

TMLPMOUNT41, TMLPMOUNT51 and TMLPMOUNT52

TMLPMOUNT**41/51/52** series mounts Intel® Communication Rack Mount Servers to 2-post or 4-post racks.

TMLPMOUNT**41** and TMLPMOUNT**51** are used for mounting servers on 19" wide racks. These racks are considered standard EIA (universal hole spacing) racks.

TMLPMOUNT**52** is used for mounting servers on 23" wide racks. These racks could be standard EIA (universal or wide hole spacing) or ETSI (European) racks.

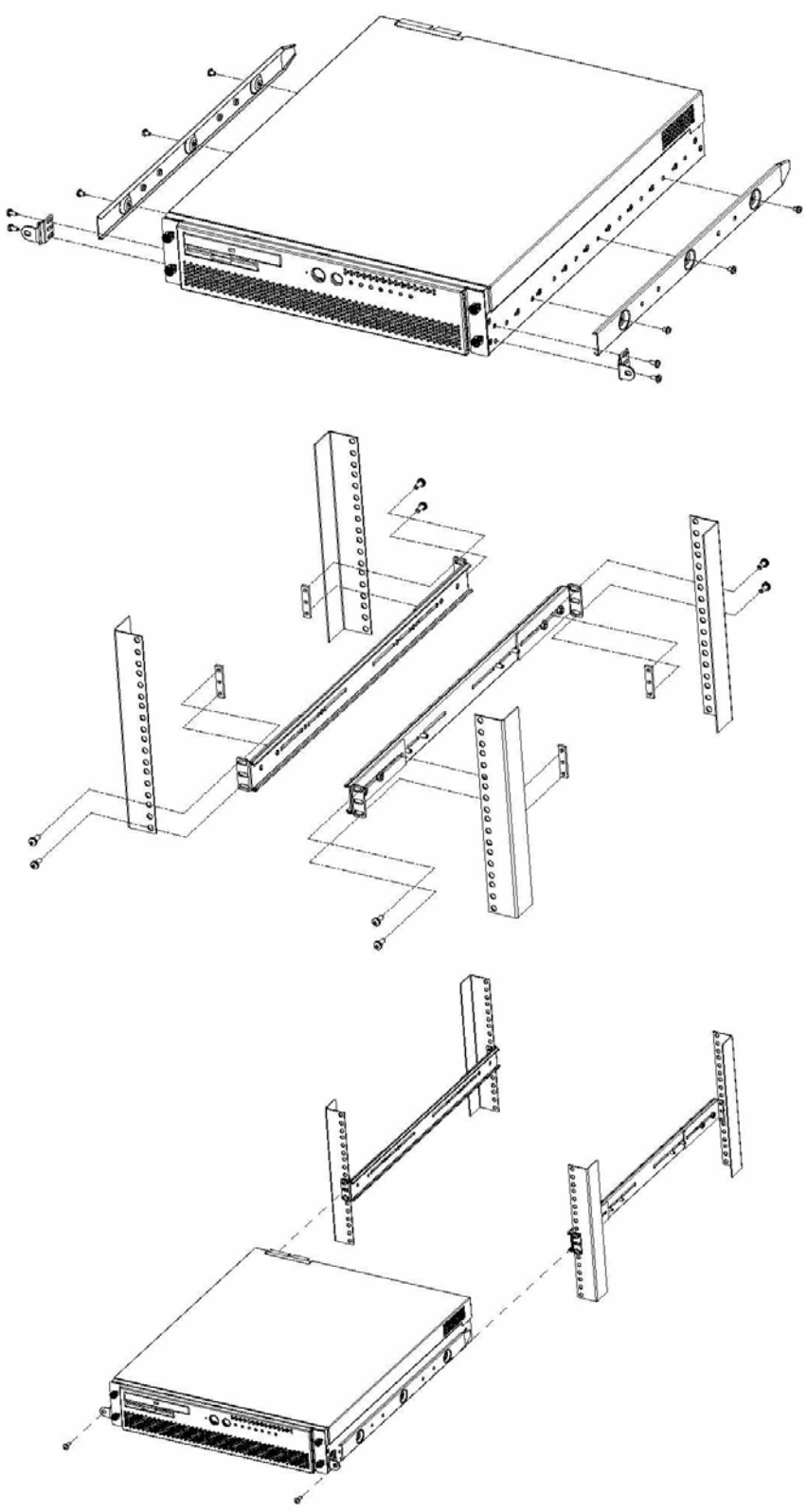
TMLPMOUNT**41/51/52** series are designed with a slide-in rail-type system. Although the mounts are designed as rails, they are not sliding rails. This means the servers can be slid into the racks for installation purpose, but the rails are not designed to support a mounted server during service.

TMLPMOUNT4x/5x feature comparison						
	Slide pull-out locking feature	**Slide interface material**	**4-post rack hole spacing**	**2U-tall nut bar**	**2-post chassis securing screw location**	**"HP Mulan rack interference"**
TMLPMOUNT**41**	No[1]	Plastic strips[2]	EIA-Universal	Not included	Side access[6]	Interference
TMLPMOUNT**51**	Yes	Xylan coating[3]	EIA-Wide or EIA-Universal[4]	Included[5]	Front access	No Interferance
TMLPMOUNT**52**	Yes	Xylan coating[3]	EIA-Wide, EIA-Universal or ETSI	Included[5]	Front access	N/A

Notes:

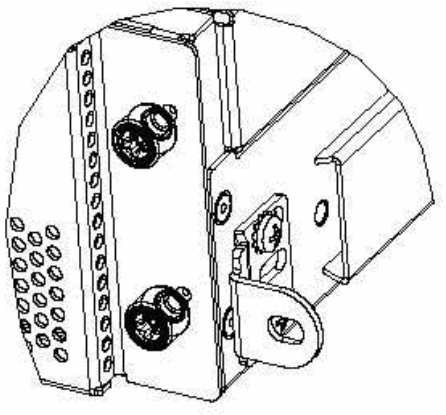
1. Extra care must be exercised with TMLPMOUNT41 to securely hold the server with one's hands when sliding it out of the rack, else the server may fall to the ground as its being removed.
2. Plastic strips on TMLPMOUNT41 have peeled off in some customer installations. Consequence: The parts are usable, but the server may have somewhat of a "scrape-in feel" rather than "slide in". Also, the rails will fit sloppier, so the side-located chassis securing screws may be difficult to align in 2-post installations. Replacement material is available from the plastic strip manufacturer.
3. Xylan is a tough, low-friction coating similar to Teflon.

4. EIA-Wide spacing doesn't have the interstitial hole that is present in EIA-Universal. TMLPMOUNT51 contains an adapter bracket to overcome this EIA-Wide issue.
5. This component (2U Nut Bar) enables installation of a rail kit into a 1U rack slot when there is already equipment installed both above and below that open slot.
6. The sides of the server must be accessible when using TMLPMOUNT41 in 2-post racks.

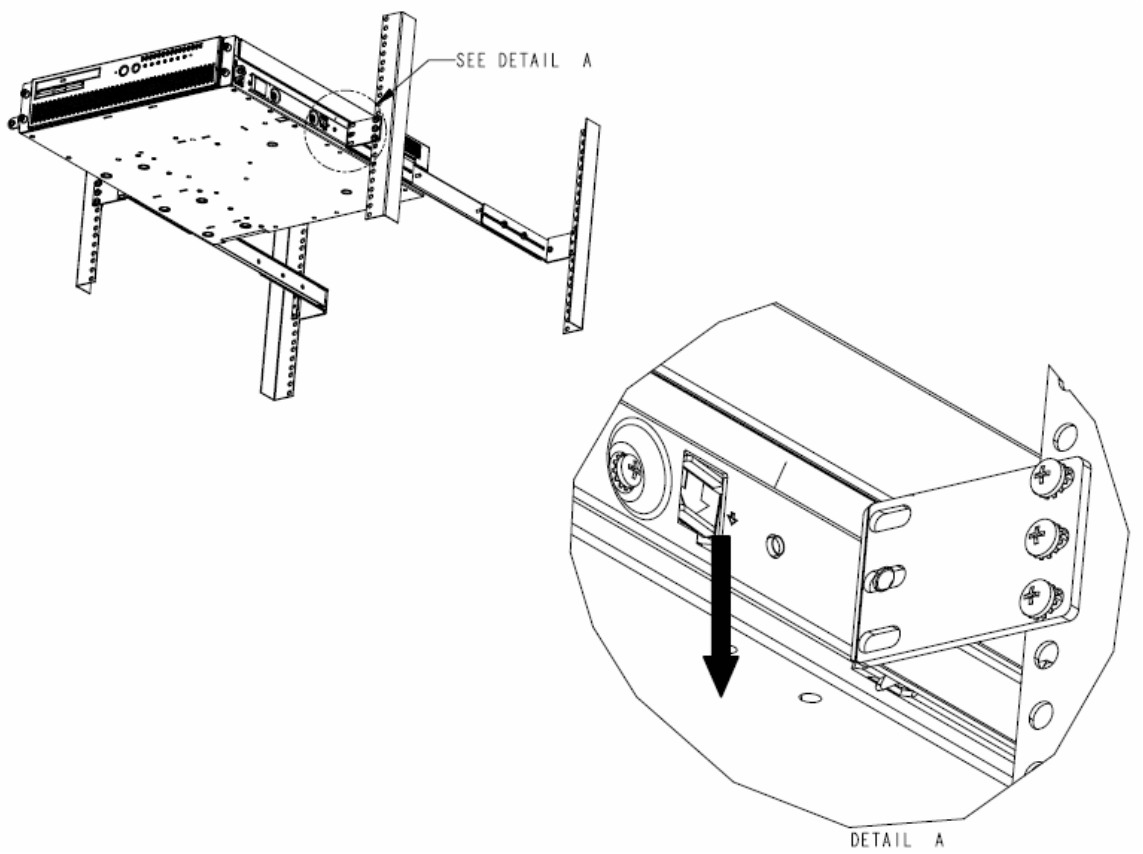


The diagrams above summarize the components and “slide-in rail-type” system of the TMLPMOUNT41. It can be adapted for a 2-post or 4-post installation.

The main difference between the TMLPMOUNT**41** and TMLPMOUNT**51/52** series is that the TMLPMOUNT**41** series uses a screw to lock the server in place via the Universal Mounting Bracket, whilst the TMLPMOUNT**51/52** series has an additional Slide Pull-Out Locking feature.



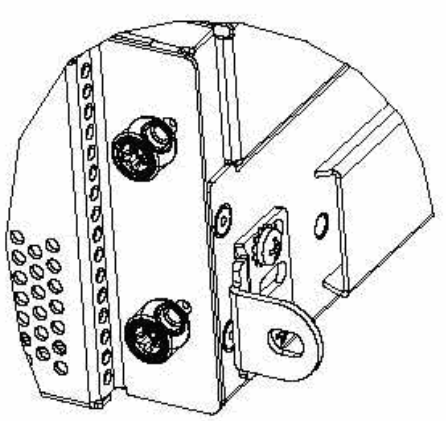
The Universal Front Mounting Bracket on the TMLPMOUNT41



The Slide Pull-Out Locking feature on the TMLPMOUNT51/52

TMLPSLIDE01

The TMLPSLIDE01 is an **accessory kit** designed for use in conjunction with slide rails to produce a rack mounted serviceable server. The TMLPSLIDE01 kit contains two Universal Front Mounting Brackets that secure the server to the front of the rack. The sliding rails and optional mounting brackets required to mount the server must be purchased through the channel. For example, the Accuride 22-inch Model 305A-LR slide rails are designed to mount a server for "in-rack service." This example would also use an Accuride mounting bracket kit and the TMLPSLIDE01.



Universal Front Mounting Bracket with securing tab

Note: Using slide rails may result in non-compliance with Seismic Zone 4 requirements of NEBS-3 certification.

Ordering Information

PID	Non-RoHS MM#	RoHS MM#	Minimum Order Quantity
TMLCMOUNT21	862501	881904	10
TMLPMOUNT41	838890	881907	10
TMLPMOUNT51	851760	881934	1
TMLPMOUNT52	851745	881935	1
TMLPSLIDE01	845583	881915	10

Customers should order RoHS items for shipments going to the European Union (EU).

Although these mounts have been designed for industry standard racks, please consult with your Intel Field Application or Sales Engineer before selecting racks for these servers.

Compatible rack mounting kits may also be obtained from 3rd party suppliers.